New activity of ISOE Asian Technical Center

ALARA benchmarking at Takahama NPP in 2017

ISOE International Symposium, 22 October 2019, Beijing

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ISOE-ATC/NSRA

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Contents in the Presentation

1. Background
   - ✓ ATC
   - ✓ Benchmarking
   - ✓ Utility, NPP
2. Outline of benchmarking
3. Results

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ISOE
Asian Technical Center

- 12 nuclear utilities and 2 regulatory authorities from Republic of Korea and Japan
- 83 reactors (incl. operational and shutdown) as of December 2018
- Activities of ATC can be roughly divided into two types
  - ✓ To collect and manage ISOE databases
  - ✓ To organize the symposia for exchange of information

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Benchmarking and ISOE

- Definition of "benchmarking"

"The use of something as a standard in order to improve your own work, products, or processes"

- Many benchmarking visit reports are available on ISOE web.
- CEPN developed "ALARA Evaluation Guide" to evaluate the application of the ALARA Principle in 2013
- ATC used the guide as a standard for benchmarking at Takahama NPP in 2017

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Utility and NPP

- Kansai Electric Power Co., Inc. (KEPCO)
  - ✓ Is one of Japanese utility ≠ Korea Electric….
  - ✓ Has operational area of Kansai region in Japan
  - ✓ Has 11 reactors on 3 sites･･･Mihama, Ohi, Takahama
- Takahama NPP
  - ✓ Is located on the central of the main island
  - ✓ 4 PWRs give a total capacity of 3,392 MW
  - ✓ Takahama-1 entered commercial operation in 1974

(Source) KEPCO Website

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Outline of the benchmarking

- Date: 25 - 27 Oct 2017
- Total of 27 participants from utilities and regulatory authorities
- **Program of benchmarking**
  - ✓ Day1: Introduction of the Guide →

    Utility's RP programs and activities → Group Discussion
  - ✓ Day2: Site Visit → Group Discussion
  - ✓ Day3: Technical visit

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"ALARA Evaluation Guide"

- CEPN developed this guide
  - ✓ To evaluate the application of the ALARA Principle
  - ✓ Many actions from reports and guidelines published by IAEA or NEA…
  - ✓ 6 topics and levels
- Benchmarking visits at Swedish NPPs using this guide
  - ✓ How and results
- This guide is available on ISOE web.


CENTRE D'ETUDE SUR L'EVALUATION
DE LA PROTECTION DANS LE DOMAINE NUCLEAIRE

cepn

Version 1.0- 12 November 2013

ALARA EVALUATION GUIDE

Sylvain ANDRESZ, Caroline SCHIEBER

This report is restricted to ISOE Member

Valorisé Reference : ALARA Benchmarking Project PR.047.6			
CEPN Reference: CEPN NTE 13/22			
Date November 2013	Noms et visas Rédacteur : S. ANDRESZ	Noms et visa Vérificateur : C. SCHIEBER	Noms et visa Approbateur : L. VAILLANT

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Utility's activities

- **Development of ALARA tools by themselves**
  - ✓ Self-standing rack for temporary shielding

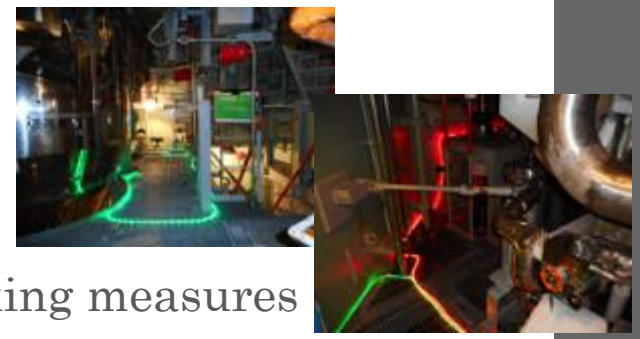
- **Emergency response arrangements**
  - ✓ Radiation monitoring in emergency response situation

(Ambient dose rate)
・NaI scintillation detector
・Semiconductor detector

Portable monitoring post

Monitoring car

Results



- **Identification of Good Practices**
  - ✓ Use of visual reminders
  - ✓ Comparison with other reactors and taking measures
- **Formulation of Recommendations**
  - ✓ More involvement of RP department in planning for outage work
  - ✓ Clarification of dose management for temporary visitors
- **Formulation of Suggestions**
  - ✓Alternative ways to save time for setting up the temporary shielding
  - ✓….

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Results

- Confirmed Good practices / Recommendations / Suggestions and shared them with the participants
- Benchmarking was a good opportunity to exchange their own experience of radiation protection
  - ✓ Participants: Not only RPM but also young staff
  - ✓ Benchmarking with colleagues ≠ IAEA, WANO reviews
- The next is scheduled at Ikata NPP in Shikoku this November

(Source) Shikoku Electric Power Co.,Inc. Website

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Thank you for listening

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